



Launch Mission Execution Forecast

Mission: Falcon 9 NASA Crew-2

Issued: 21 April 2021 / 0830L (1230Z)

Valid: 23 April 2021 / 0544-0555L (0944-0955Z)



Forecast Discussion: A pattern shift is underway as the pesky frontal boundary stalled over Central Florida finally pushes south as high pressure builds in. By Thursday morning, the high pressure will be centered near Arkansas, creating gusty northerly winds along the Space Coast due to the pressure gradient between the high and the departing boundary. By Friday morning, the high center will move over the Carolinas, allowing winds to diminish and turn easterly. The primary concern will be Flight Through Precipitation from isolated, low-topped coastal showers and onshore flow.

As the high pressure area continues to slide east, a new frontal system makes its way into the southern states on Saturday, pushing off the coast Sunday. This will bring another front through Central Florida Sunday with isolated showers and thunderstorms over the weekend. High pressure will build into the area on Monday the 26th, pushing the unsettled weather south of the Spaceport as dry air filters in. The primary weather concerns for a Monday morning attempt are Flight Through Precipitation and the Cumulus Cloud Rule in the event the boundary is still in the area.

On Tuesday, high pressure continues to move east, turning winds easterly along the Space Coast, keeping conditions favorable. The primary concerns remain Flight Through Precipitation and the Cumulus Cloud Rule.

Launch Day	Probability of Violating Weather Constraints							
	10%	Primary Concerns: Flight Through Precipitation						
	Weather Conditions						Additional Risk Criteria	
	Weather/Visibility:	None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	70°F / 78%	Cumulus	Few	3,000	7,000	Booster Recovery Weather:	Low
	Liftoff Winds (200'):	080° 12-17 mph	Cirrostratus	Scattered	28,000	30,000	Solar Activity:	Moderate
First Back-up	Probability of Violating Weather Constraints							
	30%	Primary Concerns: Flight Through Precipitation, Cumulus Cloud Rule						
	Weather Conditions						Additional Risk Criteria	
	Weather/Visibility:	None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	68°F / 82%	Cumulus	Few	3,000	6,000	Booster Recovery Weather:	Moderate
	Liftoff Winds (200'):	040° 15-20 mph					Solar Activity:	Low
Second Back-up	Probability of Violating Weather Constraints							
	30%	Primary Concerns: Flight Through Precipitation, Cumulus Cloud Rule						
	Weather Conditions						Additional Risk Criteria	
	Weather/Visibility:	None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Upper-Level Wind Shear:	Low
	Temp/Humidity:	70°F / 78%	Cumulus	Scattered	3,000	8,000	Booster Recovery Weather:	Low
	Liftoff Winds (200'):	080° 12-17 mph					Solar Activity:	Low

Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear, booster recovery weather, and solar activity.

Next Forecast Will Be Issued 22 April 2021